UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,355	04/05/2001	Dekang Lin	328-2US	4017

20212 7590 01/13/2006

THOMPSON LAMBERT
SUITE 703D, CRYSTAL PARK TWO
2121 CRYSTAL DRIVE
ARLINGTON, VA 22202

EXAMINER	
SHORTLEDGE, THOMAS E	
ART UNIT	**PAPER NUMBER**
2654	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,355	LIN ET AL.	
	Examiner	Art Unit	
	Thomas E. Shortledge	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Remarks/Arguments filed 10/28/2005.

2. Claims 1-19 are pending in the application.

Response to Arguments

3. Applicant's arguments filed 10/28/2006 have been fully considered but they are not persuasive.

The applicants argues in claim 1 (Remarks, pages 1-2) that Delugach et al. do not teach generating a database of inference rules comprising pairs of semantically equivalent paths, nor an automatic discovery of these inference rules. However, the examiner argues that Delugach et al. teach a system for examining databases and automatically extracting entities and/or activities that can be grouped by the severity of their inference potential. Further, Delugach et al. teach groups of paths are created based on their facets, where the semantic properties of the paths are used to group the paths into the correct facet: facets such as: [entity] – (used-for) – [activity], or [activity] – (produce) – [entity].

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 and 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Delugach et al.

As to claims 1 and 14, Delugach et al. teach:

a computer readable media containing instructions (a system to analyze and search databases based on a user input, page 56);

parsing text to identify paths formed by concatenated relationships between words in the text (identifying paths formed between words by identifying the relationships between those words, col. 1, paragraph 2, page 58); and

generating a database of inference rules comprising pairs of semantically equivalent paths by associating, in a computer, paths with each other based on a similarity measure between the paths (paths are placed into layers within a database based on their facet, such as inference rules where if fire produces smoke, then if fire is seen we can infer smoke, or used-for relationships, where hammer is used for nailing, then if existence of a nailing activity infers that hammer exists, (page 59, section 3.3)

and where the entities are ranked on a goodness measure, page 60, col. 2, paragraph 1).

As to claims 2 and 15, Delugach et al. teach the similarity measure is based on frequency of occurrence of words in a path (finding the number of entities or activities that can be inferred through a given association, based on the frequency of occurrence of words in a path, (page 60, col. 2 paragraph 1, and 61, col. 1, section 4.1.2). Where it would be necessary that since within finding what can be inferred, a similarity between the associations would also be found).

As to claims 3 and 16, Delugach et al. teach the words are at the end points of the paths (words are at the endpoint of the paths, page 61, col. 1, section 4.1.2).

As to claims 4 and 17, Delugach et al. teach the step of associating paths with each other comprises the step of counting occurrences of words at the end points of specific paths (associating paths that end with the same word, such as "battery" so that different devices that are able to use a battery can be inferred when battery is seen within a path, col. 1, section 4.1.2, page 61).

As to claims 5 and 18, Delugach et al. teach the step of associating paths comprises the step of comparing counts of occurrences of words and associating paths based on the counts of occurrences of the words (associating paths that contain the

occurrence of "battery", so that different devices that use a batter can be inferred when a battery is seen within a path, col. 1, section 4.1.2, page 61).

As to claims 6 and 19, Delugach et al. teach paths are associated only when the similarity measure exceeds a threshold (paths are group based on the amount of inferable items that can be inferred from a given item, the paths are grouped into four groups based on a rating, page 61, col. 1 and 2, where it would be obvious that a threshold value would be used to properly separate the paths into their sections).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7, and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delugach et al. as applied to claim 1 above, and further in view of the applicants' prior art.

As to claim 7, Delugach et al. do not teach:

initiating a search for electronic information; nor

expanding the search by reference to associated paths in a database constructed according to the method of claim 1.

However, the applicants' indicated prior art teaches it is known in the art of information retrieval to identify phrasal terms from queries and generate variants for query expansion (specification page 2, lines 20-25).

Therefore it would have been obvious to combine the teachings of Delugach et al. with the query expansion method as described by the applicants' prior art since query expansion is now to promote effective retrieval of information as disclosed in the applicants' prior art (specification page 2, lines 20-25).

As to claim 9, Delugach et al. teach the similarity measure is based on frequency of occurrence of words in a paths (finding the number of entities or activities that can be inferred through a given association, based on the frequency of occurrence of words in a path, (page 60, col. 2 paragraph 1, and 61, col. 1, section 4.1.2). Where it would be necessary that since within finding what can be inferred, a similarity between the associations would also be found).

As to claim 10, Delugach et al. teach the words are at the end points of the paths (words are at the endpoint of the paths, page 61, col. 1, section 4.1.2).

As to claim 11, Delugach et al. teach the step of associating paths with each other comprises the step of counting occurrences of words at the end points of specific

paths (associating paths that end with the same word, such as "battery" so that different devices that are able to use a battery can be inferred when battery is seen within a path, col. 1, section 4.1.2, page 61).

As to claim 12, Delugach et al. teach the step of associating paths comprises the step of comparing counts of occurrences of words and associating paths based on the counts of occurrences of the words (associating paths that contain the occurrence of "battery", so that different devices that use a batter can be inferred when a battery is seen within a path, col. 1, section 4.1.2, page 61).

As to claim 13, Delugach et al. teach paths are associated only when the similarity measure exceeds a threshold (paths are group based on the amount of inferable items that can be inferred from a given item, the paths are grouped into four groups based on a rating, page 61, col. 1 and 2, where it would be obvious that a threshold value would be used to properly separate the paths into their sections).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Delugach et al. in view of the applicants' prior art as applied to claim 7 above, and further in view of Zadrozny et al. (5,937,385).

As to claim 8, Delugach et al. and the applicant's prior art do not teach the search is initiated from a location remote from the location of the database.

However, Zadrozny et al. teach initiating the search from a remote location (Fig. 1A).

Therefore it would have been obvious to combine the teachings of Delugach et al. with the query expansion method of the applicants' prior art and with the remote search technique of Zadrozny et al. to increase the flexibility of the system, as more user can connect to the system from different locations, as taught by Zadrozny et al. (col. 1, lines 15-20).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E. Shortledge whose telephone number is (571)272-7612. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TS
1/05/2006

VIJAY CHAWAN
PRIMARY EXAMINER